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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/773,095	HART ET AL.	
	Examiner	Art Unit	
	LaTanya Bibbins	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 and 23-31 is/are allowed.
- 6) ☒ Claim(s) 12-22 and 32-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In the remarks filed on April 5, 2007, Applicant amended claims 1, 3, 6, 9, 12, 14, 16, 17, and 20, added claims 23-46, and submitted arguments for allowability of pending claims 1-46.

Response to Arguments

2. Applicant's arguments filed April 5, 2007 have been fully considered but they are not persuasive.

Regarding claims 12-22 and 32-40, while the claims are drawn to an optical recording medium the claims fail to recite structural features of the optical disc. The recited limitations do not result in any change in the physical structure of the optical disc but rather the intended use of the optical disc. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "first layer," "reflective layer," and "data layer" as recited in claims 41-46 must be shown or the features canceled from the claims. In addition, the "reading layer" as recited in claims

42 and 45 must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 12-22 and 32-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Lawandy et al. (US Patent Number 6,338,933 B1).

Regarding claim 12, Lawandy discloses an optical medium having a plurality of operational characteristics, each operational characteristic having a predefined limit, the optical medium being modified in a modified region to have a first actual characteristic at or near a predefined limit of a first of the plurality of operational characteristics prior to a read operation (column 5 lines 35, 36, 48, and 49); and the optical medium being modified in the modified region to have a second actual characteristic at or near a predefined limit of a second of the plurality of operational characteristics prior to a read operation, such that during a read operation of data stored in the modified region, the read operation is altered in the modified region as a result of the modifications such that the first and second actual characteristics of the modified medium cause a slow-down in the read operation when the modified region is read, the modified region maintaining its optical characteristics following irradiation of the modified region during the read operation (see column 5 lines 35, 36, 48, and 49, column 6 lines 48 and 49 where the operational characteristics are the length and width of the pits, column 6 lines 51-57 which discloses additional features of the data structures, and column 6 lines 62-67 and column 7 lines 1-6).

Regarding claim 13, Lawandy discloses the optical medium of claim 12 wherein the medium is modified to have a distortion of a size that is approximately the predefined limit of the operational characteristic for distortion size (column 6 lines 48 and 49).

Regarding claim 14, Lawandy discloses the optical medium of claim 13 wherein the distortion is formed in a reading layer of the medium through which an optical path is directed (column 5 lines 47-52).

Regarding claim 15, Lawandy discloses the optical medium of claim 13 wherein the distortion comprises an air bubble formed in the reading layer, a particle deposited in the reading layer, an indentation formed in an outer surface of the reading layer, or a convex feature formed in an outer surface of the reading layer (see the description of the data structures in column 6 lines 42-47 and Figure 2).

Regarding claim 16, Lawandy discloses the optical medium of claim 12 wherein a distortion is formed in a reflective layer of the medium (see column 5 lines 42-47 and Figure 2).

Regarding claim 17, Lawandy discloses the optical medium of claim 12 wherein the distortion is of a size that is approximately the predefined limit of the operational characteristic for distortion size and wherein the size of the distortion is based on a first size of a physical deformation and a second size of a local corresponding region of increased birefringence (see column 8 lines 47-54).

Regarding claim 18, Lawandy discloses the optical medium of claim 12 wherein the medium is modified to have adjacent distortions that are spaced apart by a length

that is approximately the predefined limit of the operational characteristic for length between adjacent distortions (see the spacing of the distortions or pits/lands in Figures 2, 3A, 3B, 4A, 4B, 5A, and 5B).

Regarding claim 19, Lawandy discloses the optical medium of claim 12 the medium is modified to have a region of increased birefringence (column 10 lines 12-18).

Regarding claim 20, Lawandy discloses the optical medium of claim 12 wherein the medium is modified to have a refraction index value that is approximately at the predefined limit of the operational characteristic for a range of acceptable refraction index values (see column 8 lines 7-28).

Regarding claim 21, Lawandy discloses the optical medium of claim 12 wherein the medium is modified to have a reflection value that is approximately at the predefined limit of the operational characteristic for reflection value (see column 7 lines 7-14).

Regarding claim 22, Lawandy discloses the optical medium of claim 12 wherein the selected region comprises a data region or a pre-track region of a medium (column 5 lines 35 and 36).

Regarding claim 32, an optical medium having a plurality of operational characteristics, each operational characteristic having a predefined limit, the optical medium being modified in a modified region to have a first actual characteristic at or near a predefined limit of a first of the plurality of operational characteristics prior to a read operation; and the optical medium being modified in the modified region to have a second actual characteristic at or near a predefined limit of a second of the plurality of operational characteristics prior to a read operation, such that during a read operation of

data stored in the modified region, the read operation is altered in the modified region as a result of the modifications such that the first and second actual characteristics of the modified medium cause a slow-down in the read operation when the modified region is read, the modified region maintaining its optical characteristics following irradiation of the modified region during the read operation, wherein the medium is modified in the modified region to have a distortion formed in a reflective layer of the medium (see column 5 lines 35, 36, 48, and 49, column 6 lines 48 and 49 where the operational characteristics are the length and width of the pits, column 6 lines 51-57 which discloses additional features of the data structures, column 6 lines 62-67, column 7 lines 1-6, and column 5 lines 42-47 and Figure 2).

Regarding claim 33, Lawandy discloses the optical medium of claim 32 wherein the medium is modified to have a distortion of a size that is approximately the predefined limit of the operational characteristic for distortion size (column 6 lines 48 and 49).

Regarding claim 34, Lawandy discloses the optical medium of claim 32 wherein modifying the medium comprises modifying the medium to have a distortion of a size that is approximately the predefined limit of the operational characteristic for distortion size and wherein the size of the distortion is based on the first size of a physical deformation and a second size of a local corresponding region of increased birefringence (see column 8 lines 47-54).

Regarding claim 35, Lawandy discloses the optical medium of claim 32 wherein the medium is modified to have adjacent distortions that are spaced apart by a length that is approximately the predefined limit of the operational characteristic for length

between adjacent distortions (see the spacing of the distortions or pits/lands in Figures 2, 3A, 3B, 4A, 4B, 5A, and 5B).

Regarding claim 36, Lawandy discloses the optical medium of claim 32 wherein the medium is modified to have a region of increased birefringence (column 10 lines 12-18).

Regarding claim 37, Lawandy discloses the optical medium of claim 32 wherein the medium is modified to have a refraction index value that is approximately at the predefined limits of the operational characteristic for range of acceptable refraction index values (see column 8 lines 7-28).

Regarding claim 38, Lawandy discloses the optical medium of claim 32 wherein the medium is modified to have a reflection value that is approximately at the predefined limit of the operational characteristic for reflection value (see column 7 lines 7-14).

Regarding claim 39, Lawandy discloses the optical medium of claim 32 wherein the selected region comprises a data region or a pre-track region of a medium (column 5 lines 35 and 36).

Regarding claim 40, Lawandy discloses the optical medium of claim 32 wherein the reflective layer is adjacent a data layer along a path of a track (see Figure 3A).

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 41-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al. (US Patent Number 5,815,484).

Regarding claim 41, Smith discloses a method for modifying an optical path of an optical medium, the optical medium including a first layer adjacent a reflective layer adjacent a data layer comprising: selecting a region of the optical medium be distorted (column 9 lines 19-25 and element 162 of Figure 6B); and prior to a reading operation of the medium, distorting the region of the optical medium in the reflective layer adjacent the data layer of the optical medium such that a reading operation of data stored in the data layer corresponding to the distorted region is modified, the distorted region maintaining its optical characteristics following irradiation of the distorted region during the reading operation (see the discussion in column 9 lines 1-34 and Figures 6A, 6B, 7A, and 7B).

Regarding claim 42, Smith discloses the method of claim 41 wherein the first layer comprises a reading layer (column 7 lines 16-43).

Regarding claim 43, Smith discloses the method of claim 41 wherein distorting the reflective layer comprises distorting the reflective layer along a path of a track and below a protective outer surface (see column 9 lines 1-34 where the distortion occurs in a pit or a land which inherently occurs along the path of a track, also note the discussion of the protective layer in column 7 lines 48-51 and element 54 in Figures 3A).

Claims 44-46 are drawn to the optical medium corresponding to the method of using same as claimed in claims 41-43. Therefore optical medium claims 44-46

correspond to method claims 41-43, and are rejected for the same reasons of anticipation as used above.

Citation of Relevant Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rollhaus et al. (US Patent Number 6,011,772) disclose an optical disc having machine-readable, information-encoding features is provided with a barrier layer secured to the disc. This barrier layer is configured to prevent machine-reading of the features. A reading-inhibit agent, included in the disc and activated by removal of the barrier layer, is operative, once activated, to alter the disc to inhibit reading of the disc. Alternately, the barrier layer can be eliminated, and the reading-inhibit agent can be activated by initial reading of the disc, as for example by exposure to optical radiation associated with reading of the disc, or rotation of the disc.

Bakos et al. (US Patent Number 6,839,316 B2) disclose systems and methods for inhibiting the readability of an optical media due to changes in a pseudo-reflective material that composes the optical media after the optical media has been exposed to air for a predetermined time. An optical media includes a data encoded component. At least a fraction of the data encoded component transforms from a substantially optically reflective state to a substantially optically non-reflective state as at-least-in-part a function of time from an initializing event.

Breitung et al. (US Patent Number 6,733,950 B2) discloses a limited play optical storage media and a method for limiting access to data thereon. This storage media comprises: an optically transparent substrate; a reflective layer; a data storage layer disposed between said substrate and said reflective layer; an oxygen penetrable UV coating disposed on a side of said substrate opposite said data storage layer; and a reactive layer disposed between said UV coating and said substrate, wherein said optical storage media has an initial percent reflectivity of about 50% or greater and a subsequent percent reflectivity of about 45% or less.

Weldon et al. (US Patent Number 6,747,930 B1) disclose a method and system for purposefully modifying the accessibility of information encoded upon an optical medium for indicating a state or history of the optical medium and/or a state or history of an item associated therewith. In one embodiment, the optical medium is purposefully damaged when the information is initially accessed so that upon subsequent access attempts of the information on the optical medium, a previous access of the information is detected by the purposefully induced errors. Thus, there is provided an effective technique for limiting illegal duplication and/or use of, e.g., software, movies, and music on compact disks and digital versatile disks.

Allowable Subject Matter

9. Claims 1-11 and 23-31 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1-11, none of the references of record, alone or in combination, suggest or fairly teach the limitations of independent claim 1 in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to disclose

a method for modifying an optical medium, the medium having a plurality of operational characteristics, each operational characteristic having a predefined limit, comprising: selecting a region of the medium to be modified; and modifying the medium in the region to have a first actual characteristic that is at or near a predefined limit of a first of the plurality of operational characteristics prior to a read operation of the medium; and modifying the medium in the region to have a second actual characteristic that is at or near a predefined limit of a second of the plurality of operational characteristics prior to a read operation of the medium; such that during a read operation of data stored in the modified region, **the read operation is altered in the modified region as a result of the modifications such that the first and second actual characteristics of the modified medium cause a slow-down in the read operation when the modified region is read, the modified region maintaining its optical characteristics following irradiation of the modified region during the read operation.**

Regarding claims 23-31, none of the references of record, alone or in combination, suggest or fairly teach the limitations of independent claim 23 in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to disclose a method for modifying an optical medium, the medium having a plurality of operational characteristics, each operational characteristic having a predefined limit,

comprising: selecting a region of the medium to be modified; and modifying the medium in the region to have a first actual characteristic that is at or near a predefined limit of a first of the plurality of operational characteristics prior to a read operation of the medium; and modifying the medium in the region to have a second actual characteristic that is at or near a predefined limit of a second of the plurality of operational characteristics prior to a read operation of the medium; such that during a read operation of data stored in the modified region, **the read operation is altered in the modified region as a result of the modifications such that the first and second actual characteristics of the modified medium cause a slow-down in the read operation when the modified region is read, the modified region maintaining its optical characteristics following irradiation of the modified region during the read operation; wherein modifying the medium comprises modifying the medium to have a distortion formed in a reflective layer of the medium.**

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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